OFFICE OF THE STATE FIRE MARSHAL

NOTICE OF ADOPTED AMENDMENTS

TITLE 41: FIRE PROTECTION
CHAPTER I: OFFICE OF THE STATE FIRE MARSHAL

PART 170
STORAGE, TRANSPORTATION, SALE AND USE OF PETROLEUM AND OTHER REGULATED SUBSTANCES

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Section

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OFFICE OF THE STATE FIRE MARSHAL

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AUTHORITY: Implementing the Gasoline Storage Act [430 ILCS 15] and authorized by Section 2 of the Gasoline Storage Act [430 ILCS 15/2].

SOURCE: Rules and Regulations Relating to Service Stations filed July 10, 1958; amended March 6, 1963 and April 4, 1977; codified at 5 Ill. Reg. 10692; emergency amendment at 7 Ill. Reg. 1477, effective January 26, 1983, for a maximum of 150 days; emergency expired June 25, 1983; emergency amendment at 8 Ill. Reg. 10058, effective June 29, 1984, for a maximum of 150 days; emergency expired November 26, 1984; amended at 9 Ill. Reg. 9514, effective October 1, 1985; emergency amendment at 10 Ill. Reg. 345, effective January 1, 1986, for a maximum of 150 days; emergency expired June 1, 1986; emergency amendment at 10 Ill. Reg. 12324, effective July 2, 1986, for a maximum of 150 days; emergency expired November 29, 1986; amended at 10 Ill. Reg. 19976, effective January 5, 1987; amended at 12 Ill. Reg. 8023, effective April 26, 1988; emergency amendments at 13 Ill. Reg. 1886, effective January 27, 1989, for a maximum of 150 days; emergency expired June 26, 1989; amended at 13 Ill. Reg. 5669, effective April 21, 1989; amended at 13 Ill. Reg. 7744, effective May 9, 1989; amended at 13 Ill. Reg. 8515, effective May 23, 1989; amended at 13 Ill. Reg. 8875, effective May 24, 1989; amended at 13 Ill. Reg. 14992, effective September 11, 1989; amended at 14 Ill. Reg. 5781, effective April 10, 1990; amended at 15 Ill. Reg. 7042, effective April 29, 1991; amended at 16 Ill. Reg. 4845, effective March 12, 1992; emergency amendment at 17 Ill. Reg. 1186, effective January 12, 1993, for a maximum of 150 days; emergency expired June 11, 1993; amended at 19 Ill. Reg. 5467, effective April 1, 1995; amended at 20 Ill. Reg. 4698, effective March 11, 1996; amended at 21 Ill. Reg. 8945, effective July 15, 1997; amended at 22 Ill. Reg. 21339, effective

December 1, 1998; amended at 24 Ill. Reg. 12462, effective August 1, 2000; amended at 25 Ill. Reg. 9015, effective July 5, 2001; amended at 27 Ill. Reg. 8164, effective May 1, 2003; emergency amendment at 27 Ill. Reg. 8311, effective May 2, 2003, for a maximum of 150 days; emergency expired September 28, 2003; amended at 32 Ill. Reg. 1428, effective February 1, 2008; emergency amendment at 32 Ill. Reg. 15100, effective September 8, 2008, for a maximum of 150 days; emergency expired February 4, 2009; amended at 33 Ill. Reg. _____, effective _____.

SUBPART B: UNDERGROUND STORAGE TANKS – TECHNICAL REQUIREMENTS

Section 170.421 Piping

a) Underground piping installed or replaced shall be of double-wall construction and equipped with interstitial monitoring that meets the applicable requirements of Section 170.530(g) and 40 CFR 280.43(g) for all permits issued February 1, 2008 and after. Any replaced piping that exceeds 20 feet or 50% of the total piping run shall require the entire pipe run to be replaced with double-wall, monitored piping. Where the site has multiple distinct pipe runs, only that piping run being replaced shall be required to be double-wall construction. Pressurized piping systems (including existing systems) shall also be equipped with automatic line leak detectors pursuant to Section 170.540(a).

b) Piping, valves and fittings for flammable liquids shall be designed for the working pressures and structural stresses to which they may be subjected and approved for their intended use. The application of any material shall not interfere with the normal operation of the shear valves, fusible links or any equipment installed under the dispensers or submersibles. They shall be of steel or other materials suitable for use with the liquid being handled. Pipe-wall thicknesses being determined in accordance with ANSI B31, incorporated by reference in Section 170.410, shall be deemed to comply with this Section, except that carbon steel pipe shall not be thinner than standard wall thickness listed in ANSI B36, incorporated by reference in Section 170.410.

c) Non-metallic piping systems conforming to the requirements of ANSI B31, incorporated by reference in Section 170.410, for use with flammable and combustible liquids are permitted underground.

d) After installation, pressurized piping shall be tested for 30 minutes at 1.5 times the working pressure or 50 PSI, whichever is higher. Suction and vent piping shall be tested at a minimum positive pressure of 7 psi or in accordance with the

manufacturer's recommended procedures.

e) Piping that routinely contains regulated substances and is in contact with the ground, backfill or water shall be properly designed, constructed and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory, as specified in this subsection, and all steel risers, vents, and fills in contact with the ground, backfill or water shall be dielectrically wrapped or coated:

1) The piping is constructed of fiberglass-reinforced plastic (the following codes and standards, incorporated by reference in Section 170.410, may be used to comply with this subsection (e)(1): UL 567; UL Canada Subject C107C; or UL Canada Standard CAN4-S633);

2) The piping is constructed of steel and cathodically protected in the following manner:

A) The piping is coated with a suitable dielectric material;

B) Field-installed cathodic protection systems are designed by a corrosion expert;

C) New impressed current systems are designed to allow determination of system operating status by means of permanently installed lights, amp, volts and hour gauges as required in Section 170.460 and existing impressed current systems must meet these requirements on or before November 1, 2003;

D) Cathodic protection systems are operated and maintained in accordance with Section 170.460 (the following codes and standards, incorporated by reference in Section 170.410, may be used to comply with this subsection (e)(2): NFPA 30; API Recommended Practice 1615; API Recommended Practice 1632; or NACE RPO285); or

E) The piping construction and corrosion protection are determined by the Office of the State Fire Marshal to be designed to prevent the release or threatened release of any stored regulated substance, in a manner that is no less protective of human health and the environment than the requirements in subsections (c)(1) and (2).

Before the installation of any such piping, its construction and corrosion protection shall be submitted to the Office in writing, and the Office shall issue written approval.

f) UST wiring procedures. All wiring at UST locations shall be in accordance with NFPA 70, incorporated by reference in Section 170.410. Wiring within 20 feet of tanks, within 20 feet of dispenser pumps or run in the product line trenches shall be installed in rigid metallic conduit or threaded steel conduit (or any petroleum or product resistant conduit approved for that use). Electrical conduit shall maintain at least six inches of separation from product piping to avoid damage from abrasion or stray electrical current and shall be routed away from product piping. Minimum cover is required in accordance with Table 300-5 of NFPA 70, incorporated by reference in Section 170.410. Intrinsically safe wiring shall be in conduit when installed within Class I locations, as specified in NFPA 70, incorporated by reference in Section 170.410. Caution should be taken when grounding since it impairs cathodic protection of metallic tanks or piping. When locating electrical wiring in the same trench as the product lines, the conduit shall be positioned on either side of the product piping but not above or below the product piping. This electrical conduit shall cross over the top of any product piping whenever a cross-over is necessary. A six-inch separation shall be maintained at all times, even during a cross-over. All cross-overs shall be kept to a minimum. All electrical power shall be shut off at the immediate location where installations, repairs or upgrades are in progress. All electrical seal-offs are to be properly filled whether being used or for future use.

g) All related wiring shall be inspected during UST final inspection.

h) A positive shut off valve shall be installed on the product line at the submersible or at the tank for all suction systems on all new installations and when piping is replaced at existing sites and made accessible at grade. Extractor valve will be accepted on European suction instead of positive shut off valve.

i) Vent lines will be tested from the tank to grade level at the time of installation. This test will be done at 7 psi minimum or at the pressure recommended by the manufacturer. This test will be performed at the time of the line PAI test.

j) The application of any material shall not interfere with the normal operation of the shear valves or fusible links, or any equipment installed under dispensers or submersibles.

k) Any time product piping is broken for repairs, a precision line tightness test must be conducted before the piping is put back into service.

(Source: Amended at 33 Ill. Reg. _____, effective _____)

Section 170.530 Methods and Requirements of Release Detection for Tanks

Owners and operators of petroleum UST systems shall provide release detection on tanks. These tanks must be monitored at least every 30 days for releases using one or more of the methods listed below:

a) Monthly inventory control.

1) Product inventory control (or another test of equivalent performance) shall be conducted monthly to detect a release of at least 1.0 percent of the flow-through plus 130 gallons on a monthly basis in the following manner:

A) Inventory volume measurements for regulated substance inputs, withdrawals and the amount still remaining in the tank are recorded each operating day;

B) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

C) The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;

D) Deliveries are made through a drop tube that extends to within 6 inches of the tank bottom;

E) Product dispensing is metered and recorded pursuant to Section 8 of the Weights and Measures Act [225 ILCS 470/8];

F) The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month (practices described in API Recommended Practice 1621, incorporated by reference in Section 170.410, may be used, where

applicable, as guidance in meeting the requirements of this subsection (a));

G) To the extent the above measurements or recordkeeping are the responsibility of the UST owner, the owner or whoever performs those activities on the owner's behalf, shall be knowledgeable in such performance;

H) Monthly inventory control records for the previous 3 years must be kept on site;

I) This method can only be used for a period of 10 years from the date cathodic protection was installed on the tank. A precision tank test must be performed at 5 years and 10 years and these records kept on site for 10 years. At 10 years, another form of leak detection is required;

J) Inventory control will only be allowed on sites currently using this method until the 10-year time allowance expires. No new sites will be allowed to use this method after May 1, 2003;

K) Inventory control may not be used on systems with blending pumps or siphon tanks.

2) Monthly inventory control cannot be used as a method of release detection for any tank that, after passing only a noninvasive tank integrity assessment, was upgraded using the cathodic protection method.

b) Manual tank gauging. Only tanks of 600 gallons or less nominal capacity may use the method described in this subsection as the sole method of release detection. For tanks of 601 to 2,000 gallons, this method may be used for a period of 10 years from the date cathodic protection was installed on the tank. For tanks over 2,000 gallons, this method shall not be used. Tanks 601 to 2,000 gallons must receive a precision tank test once every year. The monthly records required for manual tank gauging and the yearly tank tests must be kept for 3 years on site. At the end of 10 years, another form of tank leak detection is required for tanks 601 gallons to 2,000 gallons.

1) Manual tank gauging shall meet the following requirements:

A) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;

B) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

C) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

D) A leak is suspected and subject to the requirements of Sections 170.560 through 170.610, if the variation between beginning and ending measurements exceeds the weekly or monthly standards in Table B;

E) The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month (practices described in API Recommended Practice 1621, incorporated by reference in Section 170.410, may be used, where applicable, as guidance in meeting the requirements of this subsection (b)); and

F) To the extent the above measurements or recordkeeping are the responsibility of the UST owner, the owner or whoever performs those activities on the owner's behalf, shall be knowledgeable in such performance.

2) Manual tank gauging cannot be used as a method of release detection for any tank that, after passing only a noninvasive tank integrity assessment, was upgraded using the cathodic protection method.

3) This method will not be allowed for tanks 601 to 2,000 gallons after May 1, 2003, except that, for those tanks for which this method was being used on May 1, 2003, the method may be used until the 10-year allowance expires.

c) Precision tank tightness testing, as approved by the Office of the State Fire Marshal.

1) Tank tightness testing (or another test of equivalent performance) shall be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table. There are four types of precision testing:

A) 100 percent volumetric overfill;

B) Volumetric underfill with an approved ullage test of negative pressure or inert gas as approved by the Office of the State Fire Marshal;

C) A negative pressure; or

D) Other approved methods, in accordance with subsection (i).

2) In the case of a suspected release, tracer elements and ATGs are not an approved method of precision tank testing.

d) Automatic tank gauging (ATG). Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control shall meet the following requirements:

1) The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product.

2) The ATG must be third party evaluated by and listed in the NWGLDE publication "List of Leak Detection Evaluations for Underground Storage Tank Systems". The ATG must be installed, calibrated and in compliance with the protocol of the third party evaluation.

3) All new or replacement ATG monitors shall be mounted no more than 6 feet from the floor and must remain unobstructed and accessible.

4) All new ATG systems must be equipped with printers. Existing ATG systems must be equipped with printers by May 1, 2004. If a system has to be retrofitted, a permit will be required. Systems with remote printers will be accepted.

e) Vapor monitoring. Testing or monitoring for vapors within the soil gas of the excavation zone shall meet the following requirements:

1) The materials used as a backfill are sufficiently porous (e.g., gravel, sand or crushed rock) to readily allow diffusion of vapor from releases into the excavation area;

2) The stored regulated substance or a tracer compound placed in the tank system is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

3) The measurement of vapors by the monitoring device is not rendered inoperative by groundwater, rainfall, soil moisture or other known interferences so that a release could go undetected for more than 30 days;

4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;

5) The vapor monitors are designed and operated to detect any significant increase in concentration above the background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system; vapor monitor sensors must be permanently installed in the vapor monitor wells; a monthly inspection of the vapor monitoring system must be made and a log maintained showing the date of inspection, results, and initials of the party doing the inspection;

6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in subsections (e)(1) through (4) of this Section and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product;

7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;

8) Vapor monitoring wells shall be of sufficient design to allow vapors to be detected from any portion of the tank being monitored and shall be a minimum of four inches in diameter or as approved by the Office of the

State Fire Marshal on the applicable permit; and

9) An adequate number of vapor monitoring wells shall be provided to ensure that a release can be detected from any portion of the tank. Adequacy of such wells is subject to approval of the Office of the State Fire Marshal on the applicable permit.

f) Groundwater monitoring. Testing or monitoring for liquids on the groundwater shall meet the following requirements:

1) The regulated substance stored is immiscible in water and has a specific gravity of less than one;

2) Groundwater is never more than 20 feet from the ground surface, the hydraulic conductivity of the soil between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials), and groundwater shall be present in the groundwater monitoring wells at all times;

3) The slotted or perforated portion of the monitoring well casing shall be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low groundwater conditions;

4) Groundwater monitoring wells shall be sealed from the ground surface to the top of the filter pack;

5) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;

6) The continuous monitoring devices or manual methods used can detect the presence of at least ⅛ of an inch of free product on top of the groundwater in the monitoring wells.

A) The continuous monitoring devices must be fixed sensors mounted permanently inside the well or samples must be taken by a mechanical bailer capable of detecting the presence of at least ⅛-inch of free product on top of the groundwater in the monitoring wells.

B) Groundwater monitoring must be done monthly and a log of the inspection made showing the date of the inspection, initials of the person conducting the inspection, and results of the well sampling. This log must be done every 30 days and kept on-site, or available within 30 minutes, for 3 years.

7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in subsections (f)(1) through (5) of this Section and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product;

8) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering;

9) The minimum diameter of groundwater monitoring wells shall be 8 inches or as approved by the Office of the State Fire Marshal on the applicable permit; and

10) An adequate number of groundwater monitoring wells shall be provided to ensure that a release can be detected from any portion of the tank. Adequacy of such wells is subject to approval of the Office of the State Fire Marshal on the applicable permit. On new installations, there shall be two 8-inch diameter monitoring wells for the first tanks and 1 additional well for each additional tank installed. The wells will be of manufactured slotted or perforated type. They shall be at opposite ends and corners, one foot below the invert elevations of the lowest UST.

g) Interstitial monitoring. Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it, or interstitial monitoring meeting the requirements of this Section as required by Sections 170.420(a) and 170.421(a), may be used but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product. Existing interstitial monitoring systems and sensors shall be maintained and may not be removed irrespective of whether such leak detection is secondary or redundant to other forms of leak detection. If the interstitial monitoring is not functional or not operating properly, it shall promptly be repaired or replaced, and any necessary measures to prevent false positive and false negative readings shall

be implemented. The monitoring must also meet ~~and, also, meets~~ one of the following requirements:

1) For double-wall UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product; the provisions specified in STI, "Standard for Dual Wall Underground Storage Tank", incorporated by reference in Section 170.410, may be used as guidance for aspects of the design and construction of underground steel double-wall tanks.

2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier.

   A) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (not in excess of 0.000001 cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;

   B) The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;

   C) For cathodically protected tanks, the secondary barrier shall be installed so that it does not interfere with the proper operation of the cathodic protection system;

   D) The groundwater, soil moisture or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;

   E) The site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25-year flood plain unless the barrier and monitoring designs are for use under such conditions;

   F) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering; and

   G) An adequate number of monitoring wells shall be provided to

ensure that a release can be detected from any portion of the tank. Adequacy of the number of such wells is subject to the approval of the Office of the State Fire Marshal.

3) For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

4) The interstitial monitoring system must be tested every 3 years to verify its operation and records from the previous test must be kept on-site, or available within 30 minutes. Testing of the system sensors shall be done in such a way as to verify their function but not damage the sensors.

5) Recordkeeping requirements for interstitial monitoring of tanks and lines requires an inspection once every 30 days and records for the previous 3 years must be kept on-site or available within 30 minutes. The records can be from an ATG system showing the interstitial monitors' status (pass/normal/other/) on a print out tape or by maintaining a log showing date of inspection, initials of inspector, status of system (pass/normal/ other).

h) Statistical Inventory Reconciliation (SIR).

1) The company that uses this method shall provide the Office of the State Fire Marshal a written affirmation that their data collection staff is trained in the data gathering procedures and that only trained staff will be utilized for data collection. Each tank monitored by SIR shall be identified to the Office in writing within 30 days of the commencement of such monitoring, specifying tank size, product stored, facility location and any other pertinent identification information necessary.

2) SIR methods may only be used in conjunction with precision tank tightness testing conducted yearly.

3) A precision tank tightness test, as approved by the Office of the State Fire Marshal, shall be mandatory, if any data analysis indicates a possible release or is inconclusive or indeterminate, or for any test result other than a pass.

4) The measurement of any water level in the bottom of the tank is made to

the nearest ⅛-inch at least once a month (practices described in API Recommended Practice 1621, incorporated by reference in Section 170.410, may be used, where applicable, as guidance in meeting the requirements of this subsection (h)).

5) SIR test records for the previous 3 years must be kept on-site (a lag time of 60 days will be allowed for on-site records) or available within 30 minutes.

6) New requests to use SIR after May 1, 2003 will no longer be accepted. If SIR is discontinued at a site, it will not be allowed again.

7) After January 1, 2006, SIR may not be used on systems with blending pumps or siphon tanks.

i) Other methods. Any other type of release detection method or combination of methods, approved by the Office of the State Fire Marshal, may be used if the owner or operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in subsections (c) through (h) of this Section. Demonstration of any such method shall be in writing submitted to the Office of the State Fire Marshal. In comparing methods, the Office shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner or operator shall comply with any conditions imposed by the Office on its use to ensure the protection of human health or the environment. Before the utilization of the method, the Office shall issue written approval.

j) One copy of each independent third-party evaluation and its protocol, for the release detection methods in subsections (c), (d), (e), (g), (h) and (i), shall be submitted to the Office of the State Fire Marshal as part of the permit application process. Any deviation from the third-party evaluation shall be included with the permit application submitted to OSFM~~resubmitted~~ for approval, along with an evaluation by a registered professional engineer finding that the release detection system as installed meets all required performance standards. These performance standards are 40 CFR 280 (2008); this Part; the List of Leak Detection Evaluations for Storage Tank Systems (incorporated in Section 170.410); and Standard Test Procedures for Evaluating Various Leak Detection Methods (EPA-530/UST-90/004 through 010 (March 1990), found at www.epa.gov/oust.

k) Only one approved method of primary release detection is required for each tank,

although multiple methods are acceptable.

l) No method of release detection shall be used unless that method has been approved by the Office of the State Fire Marshal.

(Source: Amended at 33 Ill. Reg. _____, effective _____)

Section 170.540 Methods and Requirements of Release Detection for Piping

Owners and operators of petroleum UST systems shall provide release detection, for piping that was designed to contain regulated substances, by the following methods: for pressurized lines – subsections (a) and (b) or subsections (a) and (d); for suction lines – subsection (c).

a) Line leak detectors for pressurized systems. Both existing and new pressurized piping installations shall be equipped with automatic line leak detectors. Mechanical and electronic line leak detectors which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of three gallons per hour at 10 pounds per square inch line pressure within one hour. All line leak detectors must have a functionality~~an operational~~ test performed annually. One copy of an independent third-party evaluation and its protocol for each piping release detection method shall be submitted to the Office of the State Fire Marshal as part of the permit application process. Any deviation from the third-party evaluation shall be included with the permit application submitted to OSFM~~resubmitted~~ for approval, along with an evaluation by a registered professional engineer finding that the release detection system as installed meets all required performance standards (see Section 170.530(j)).

b) Line tightness testing requirements may be met by one of the following methods:

1) Pressurized lines must have an annual precision test that is capable of detecting a 0.1 gallon per hour leak rate at 1½ times the operating pressure for 30 minutes.

2) Use of an inert gas to pressurize piping as approved by the OSFM is also acceptable.

3) The use of electronic line leak detection that performs a 0.1 gallon per hour test annually is acceptable as the annual test if records can be supplied that confirm a test pass at the 0.1 rate. These records must be

kept on site for 3 years, or available within 30 minutes.

4) A method meeting the requirements of the NWGLDE publication "List of Leak Detection Evaluations for Underground Storage Tank Systems".

c) Suction lines.

1) American suction shall be tested annually using any of the following methods in the NWGLDE publication "List of Leak Detection Evaluations for Underground Storage Tank Systems":

A) If using positive pressure, use at least 7 psi for 30 minutes.

B) The use of a monthly monitoring method.

2) European suction does not require a test if it is designed and constructed to meet the following:

A) The below grade piping operates at less than atmospheric pressure;

B) The below grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;

C) Only one check valve is included in each suction line;

D) The check valve is located directly below and as close as practical to the suction pump; and

E) A method is provided that allows compliance with subsections (c)(2)(B), (D) and (E) of this Section to be readily determined.

d) Applicable tank methods. Any of the methods in Section 170.530(e) through (g) and (i)~~170.530(a) through (i)~~ may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances, as approved by the Office of the State Fire Marshal. SIR is not acceptable as a form of line leak detection. Precision testing is not a stand-alone method for line leak detection ~~or precision test~~. Interstitial piping leak detection systems that are third party approved and have an audible alarm or shut down the product flow can be used in place of annual precision line testing so long as used in conjunction with a mechanical line leak detector.

e) Existing interstitial monitoring systems and sensors shall be maintained and may not be removed irrespective of whether the leak detection is secondary or redundant to other forms of leak detection. If the interstitial monitoring is not functional or not operating properly, it shall promptly be repaired or replaced, and any necessary measures to prevent false positive and false negative readings shall be implemented.

(Source: Amended at 33 Ill. Reg. _____, effective _____)

Section 170.541 Installer, Repairer, Liner or Remover of USTs and Obtaining Permits

Any person who is an installer, repairer, liner or remover of underground storage tanks is a contractor. However, in order for a contractor to do lining inspections, lining touch up or cathodic protection, or install, repair, line, upgrade, abandon or remove any UST, the contractor is required to be licensed and obtain a permit for that activity, in compliance with the following:

a) Pay $200~~$100~~ per permitted activity~~site~~ to the Office of the State Fire Marshal for a permit to install, repair, or line, or perform lining touch up, lining inspections, cathodic protection, or abandonment, upgrade or removal of underground storage tanks.

1) A separate fee is required for each type of activity.

2) This fee is to be paid by check or money order made payable to "Office of the State Fire Marshal" and is to be from the installer, repairer, liner or remover.

3) Only contractors licensed and certified in accordance with Subpart E (or their respective employees, who do not have to be licensed and certified), and not barred pursuant to Subpart D, may obtain permits. Contractors are required to be licensed and certified in the UST activity for which they are applying.

4) Only contractors, their employees or subcontractors may perform the permitted UST activity in accordance with Subpart E.

5) Only the most current permit application for the activity is to be submitted.

6) Insufficient information submitted with the permit application or an illegible permit application submission is cause for return or denial.

7) Permits expire 6 months from the date they are issued. The applicant may apply for additional 6 month extensions. Permit extensions that circumvent newly adopted technical requirements will not be allowed. Each extension request must be submitted in writing before the permit lapses and must~~will~~ be accompanied by a $200~~$100~~ fee. ~~Contractors may apply for one extension at the time of the original application. A new permit application and fee must be submitted if the permit lapses.~~

8) Permit applications denied or rejected the second time will require a new application submission fee.

9) Permit applications and issued permits are not transferable.

10) Permit applications and issued permits may only be submitted and amended by contractors licensed and certified in the area of UST activity for which they are applying.

11) Amended permits. OSFM may approve minor amendments to granted ~~Granted~~ permits ~~may be amended~~ only once in the office or in the field without a new application fee. Examples of minor amendments include very minor changes in the location of piping necessitated by field conditions learned during excavation, or, with regard to equipment, changes in the make and model number of alternative equipment to be installed that is equivalent, third-party listed and suitable for the permitted use. Additional amendments may be allowed with an additional permit application and $200~~$100~~ fee.~~;~~ For all permit amendments~~except~~, each change that requires a new contractor, a new site plan or another engineering review to determine acceptability will require a new permit application submission and $200~~$100~~ fee. "As-built" drawings reflecting any amendment to the site plan shall be submitted to OSFM within 10 days after OSFM approval of the amendment. Permit amendments that circumvent newly adopted technical requirements will not be allowed.

12) A person who is the owner of a UST for which a permit is obtained shall be listed on the permit application as the owner.

13) In the event there is a delegation of authority to the City of Chicago to

enforce UST rules and regulations, pursuant to 430 ILCS 15/2, subject to the terms of such an agreement, the City has the authority to modify this subsection (a) to issue the permits and collect the fees for its own use, regarding UST activities within the jurisdiction of the City.

14) A permit is closed:

A) When the work under the permit is completed and the required notification forms have been submitted to the OSFM; or

B) When the permit has lapsed, expired or been revoked.

b) No permit may be issued when a current owner is listed on a permit application who owes fees pursuant to Section 170.441 or 170.442 until any such fee is paid in full.

c) No UST activity requiring a permit may proceed without a granted permit in the possession of the contractor or representative of the contractor at the UST site, except pursuant to Section 170.481, and the permit shall be available upon request of an Office of the State Fire Marshal representative. Performance by a contractor of a UST activity in violation of this Section may result in the suspension or revocation of the license of that contractor to perform any UST activity. This does not preclude suspension or revocation for a violation of any other applicable Section.

d) No UST owners or operators may perform any UST activity on their UST, unless the owner complies with the licensing and certification requirements of Subpart E.

e) UST activity performed that is not in compliance with the conditions of a permit issued to a contractor is cause for permit revocation, or suspension or revocation of the license of that contractor to perform any UST activity. This does not preclude suspension or revocation for a violation of any other applicable Section.

f) For purposes of this Section, the term "installer" includes "replacer" and "install" includes "replace"; the term "repairer" includes a person who upgrades and "repair" includes "upgrade"; and the term "remover" includes a person who "abandons-in-place" and "remove" includes "abandon-in-place" a UST.

g) Actions requiring a permit.

1) A permit is required to do any of the following to USTs:

A) remove;

B) abandon-in-place;

C) upgrade;

D) repair;

E) line;

F) inspect linings;

G) lining touch ups;

H) emergency repairs;

I) repair or install cathodic protection;

J) install manways (except in cases associated with a lining permit or lining inspection permit) with manholes bolted to the tank top, only when in conjunction with an inspection and in a manner that does not damage the existing lining;

K) install a UST and piping; or

L) any time a tank is entered.

2) Primary leak detection systems, corrosion protection, spill containment, overfill prevention, dispenser activity under Section 170.420(d)(19), and new dispenser islands also require permits.

h) Actions not requiring a permit.

1) No permit is required to do routine maintenance on, or like-for-like replacements for, the following:

A) submersible pumps;

B) spill containment devices;

C) drop tube valves;

D) ball floats;

E) ATG probes;

F) mechanical line leak detectors;

G) electronic line leak detectors;

H) wireless electronic line leak detectors; or

I) rectifiers.

2) The exceptions listed in subsection (h)(1) are the only exceptions from the permit requirement. If the equipment is not present or another type of equipment is to be used, a permit shall be required. Any pipe or flex connector work requires a permit.

3) In the event that equipment is not installed like-for-like and/or equipment is installed without a permit, the owner/operator will be required to do the following:

A) Hire an OSFM recognized contractor other than the contractor who did the unauthorized/non-permitted work.

B) OSFM Engineering Department will determine if the equipment is approved for this application.

C) Contractor will submit a Date and Time Certain job schedule to review the installation and determine that the equipment has been installed as per manufacturer's specifications.

D) Contractor will schedule a Date and Time Certain final inspection. The contractor will have a representative at the final inspection that is knowledgeable and able to work with this equipment. An amended notification form for this installation shall be available

for the STSS. The representative will review the equipment with the STSS.

4) Replacing of any of the above equipment must be reported in writing, within 24 hours after the activity, to the OSFM, on an OSFM approved form, listing the make, model, and manufacturer of the equipment, indicating where the equipment is being installed.

5) When replacing an electronic line leak detector that is capable of detecting a release within 0.1gph with a mechanical line leak detector, notification must be made by the contractor to the OSFM in writing, within 8 working hours after replacement, on an approved OSFM form. An original replacement must be completed within 10 working days and notification of completion shall be submitted to the OSFM within 8 working hours after the replacement.

6) A valid permit does not remedy a violation until the work is completed and does not allow for any extensions of time for compliance.

(Source: Amended at 33 Ill. Reg. _____, effective _____)